

Basal bolus insulin in type 1 diabetes - Calculations

Basal bolus insulin is used to replace the insulin that is no longer produced in type 1 diabetes. The 'basal bolus insulin' approach most closely matches how the body would make insulin in a person without type 1 diabetes.

Insulin Sensitivity Factor Calculations

Correct the following blood glucose levels by using your Insulin Sensitivity Factor (ISF) and target blood glucose level (BGL).

$$\frac{\text{Current BGL} - \text{Target BGL}}{\text{Insulin Sensitivity Factor (ISF)}}$$

Example #1:

Before Lunch BGL:	15.0mmol/L
Ideal BGL:	■ mmol/L
ISF:	1 unit of rapid acting insulin lowers my blood glucose level by ■ mmol/L
Answer	■ units of rapid acting insulin

Example #2:

Before Dinner BGL:	11.2mmol/L
Ideal BGL:	■ mmol/L
ISF:	1 unit of rapid acting insulin lowers my blood glucose level by ■ mmol/L
Answer	■ units of rapid acting insulin

Example #3:

Before Lunch BGL:	3.0mmol/L
Ideal BGL:	■ mmol/L
ISF:	1 unit of rapid acting insulin lowers my blood glucose level by ■ mmol/L
Answer	■ units of rapid acting insulin

Example #4:

Before Breakfast BGL:	14.3mmol/L
Ideal BGL:	■ mmol/L
ISF:	1 unit of rapid acting insulin lowers my blood glucose level by ■ mmol/L
Answer	■ units of rapid acting insulin

Example #5:

Before Dinner BGL:	6.2mmol/L
Ideal BGL:	■ mmol/L
ISF:	1 unit of rapid acting insulin lowers my blood glucose level by ■ mmol/L
Answer	■ units of rapid acting insulin



Insulin:Carbohydrate (CHO) Ratio Calculations

Calculate how many units of insulin are required for each meal by using your Insulin:Carbohydrate (CHO) Ratio.

Insulin:Carbohydrate (CHO) Ratio
 ___unit of rapid action insulin: 15grams of carbohydrate (exchange)
 ___unit of rapid acting: ___ grams of carbohydrate

Example #1 Lunch:

Turkey sandwich with 2 slices of bread	exchanges/grams
1 small apple	exchanges/grams
1 small flat white coffee	exchanges/grams
Answer	units of rapid acting insulin

Example #2: Breakfast

1 egg	exchanges/grams
2 rashers of bacon	exchanges/grams
1 serve of baked beans	exchanges/grams
2 pieces of toast	exchanges/grams
1 glass of orange juice	exchanges/grams
Answer	units of rapid acting insulin

Example #3: Dinner

Pork and vegetable stir fry	exchanges/grams
1 cup cooked rice	exchanges/grams
1 glass white wine	exchanges/grams
1 serve of cheese cake, cream and strawberries	exchanges/grams
1 cup of tea	exchanges/grams
Answer	units of rapid acting insulin

Example #4 Lunch:

Warm chicken salad	exchanges/grams
1 small dinner roll	exchanges/grams
1 diet coke	exchanges/grams
Answer	units of rapid acting insulin

Example #5 Breakfast:

6 weetbix	exchanges/grams
250mL apple juice	exchanges/grams
Answer	units of rapid acting insulin

Example #6 Dinner:

1 greek yiros	exchanges/grams
1 serve hot chips	exchanges/grams
1 can of pepsi	exchanges/grams
Answer	units of rapid acting insulin

For more information

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